

Appl. No. : 09/945,026
Filed : August 31, 2001

AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION:

Please insert the following subtitle and paragraph on page 1, before the BACKGROUND OF THE INVENTION:

RELATED CASES

This application is a continuation of Application No. 09/069,057, filed April 28, 1998, now abandoned, which is a continuation of Application No. 08/405,494, filed March 15, 1995, now abandoned.

Please replace the paragraph beginning at page 13, line 1, with the following rewritten paragraph.

17. Turning then to the exercising apparatus 10 itself, the apparatus has a main frame generally indicated by the numeral 60. The main frame can be constructed of any suitable material, such as tubular steel. In this illustrative operative environment, the exercising apparatus is to be employed in a reduced gravity environment, but must be launched into space aboard a space vehicle. Accordingly, the conservation of weight and space may be important. The main frame has a pair of substantially parallel, longitudinal frame members 61 interconnected by a pair of transverse frame members 62 extending therebetween in spaced, parallel relation. Thus, the longitudinal and transverse frame members form a rectangular configuration. The main frame is mounted on, or rested upon, a surface of support by mounting assemblies 63 which are mounted on the interior surface 22 of the bulkhead 21. It will be understood that in other operative environments under normal earth gravity conditions, the main frame can simply be rested on a surface of support in which case the mounting assemblies may be replaced by adjustable rests for this purpose.

Please replace the paragraph beginning at page 15, line 1, with the following rewritten paragraph:

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18. A pair of lateral frame members 90 are mounted on, and extend upwardly from, each longitudinal frame member 61 to upper end portions 91. Lateral support members 92 are individually mounted on the upper end portions 91 of the lateral frame members 90 and extend to, and are mounted on, the central support beams 84, as shown best in FIG. 4. Side frame members 93 are individually mounted, as by welding, on the upper end portions 81 of the outer rearward frame members 80 and extend to distal end portions 94 along courses disposed in spaced, parallel relation to the central support beams 84. A convergent brace member 95 is mounted on the distal end portion 94 of each side frame member 93 and extends to, and is mounted on, the central support beam 84. Similarly, a divergent brace member 96 is mounted on the distal end portion 94 of each side frame member 93 and extends to, and is mounted on, the adjacent lateral support member 92 so as to form the substantially triangular configuration visible in FIG. 4. A mounting plate 97 is mounted on each lateral frame member 90 in a predetermined position, as shown in FIG. 4. A transverse frame member 98 interconnects the longitudinal frame members 61. A pair of longitudinal frame members 99 interconnects transverse frame member 62 on the right, as viewed in FIG. 4, and the transverse frame member 98.

Please replace the paragraph beginning at page 15, line 23, with the following rewritten paragraph:

19. A pair of oblique side members 105 are individually mounted on the distal end portions 85 of the central support beams 84 and extend upwardly at an angle therefrom from right to left, as viewed in FIGS. 2A and 2B. The distal end portions of the oblique side members are interconnected by a transverse member 106 extending therebetween. A body support assembly 107 is mounted on the central support beams 84 and has a contact surface 108. The body support assembly is preferably cushioned so as to provide comfortable support in a normal gravity environment for an operator. Similarly, a head support assembly 109 is mounted on the oblique side members 105 and transverse member 106 and has a contact surface 110. Similarly, the head support assembly is preferably cushioned for comfortable use in a normal gravity environment. The body

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support assembly and head support assembly thus form an operator's station generally indicated by the numeral 111. For illustrative convenience, and as depicted in FIG. 1, when the operator 29 is in the supine attitude 30, as shown therein, the shoulders 37 of the operator define a first reference position generally indicated by the numeral 112 which may be viewed as extending transversely across the contact surface 108 of the body support assembly along an axis generally extending through the shoulders of the operator. The significance of this reference position will hereinafter be described. Similarly, when the operator 29 is in the supine attitude 30, as shown in FIG. 1, the hips of the operator may be viewed as defining a second reference position 113.

Please replace the paragraph beginning at page 18, line 26, with the following rewritten paragraph:

20. A pair of rear roller mounting plates 170 are mounted on, and extend downwardly from, the opposite ends of the rear cross beam 155 beneath their respective rearward end portions 143 of the lower longitudinal frame members 142. Similarly, a pair of central roller mounting plates 171 are individually mounted on, and extend downwardly from, the lower longitudinal frame members 142 at approximately the junctures of the brace members 158 with their respective lower longitudinal frame members 142. Each of the rear roller mounting plates mounts a pair of spaced, parallel rear roller shafts 172 extending outwardly therefrom in predetermined spaced relation and individually rotationally mounting rear rollers 173 thereon. Similarly, the central roller mounting plates 171 individually mount central roller shafts 174 extending outwardly therefrom in spaced, parallel relation and individually rotationally mounting central rollers 175 thereon. The rear rollers 173 and central rollers 175 are spaced from each other and have arcuate channels extending peripherally thereabout so as rotationally to engage their respective arcuate track member 121 therebetween. Thus, the carriage assembly is mounted for movement on the arcuate track members by the rear rollers 173 on each side of the carriage assembly engaging the arcuate track member and by the central rollers 175 on each side of the carriage assembly engaging the arcuate track member. Thus, the carriage assembly is movable on the track assembly 120 between a

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retracted position shown in FIGS. 1, 2A, 2B and 4 and an advanced or extended position shown in FIGS. 3A and 3B.

Please replace the paragraph beginning at page 19, line 26, with the following rewritten paragraph:

21.—A pair of bearing plates 180 are individually mounted on, and extend downwardly from, the lower convergent brace members 160. Bearings 181 are individually mounted on the bearing plates defining a primary pivot axis, or axis of rotation extending transversely of the carriage assembly 140. An engagement assembly is borne by the carriage assembly and is generally indicated by the numeral 182 in FIG. 3B. The engagement assembly has a pair of pivotal mounting assemblies 183 which are individually mounted for pivotal movement in the bearings 181 about the axis of rotation defined thereby and are mounted on mounting plates 184 individually interconnected by a cross member 185 parallel to the axis of rotation defined by the bearings 181.

Please replace the paragraph beginning at page 24, line 15, with the following rewritten paragraph:

22.—The apparatus has a linkage which interconnects the clevis assembly 255 of the cylinder rod 254 of major pneumatic cylinder 253 and the upper convergent brace member 159. The linkage includes a first linking member or arm 280 is mounted on the pivot mount 262 interconnecting the link arms 261 and the clevis assembly 255 by a first pivot mount 281. A second pivot mount 282 interconnects the distal end of the first linking arm with a second linking member or arm 283 which is, in turn, connected to the upper convergent brace member 159 on the right, as viewed in FIG. 1, by a third pivot mount 284. As can be seen in the drawings, the first linking arm 280 has a bend therein. The clevis assembly 275 of the minor pneumatic cylinder assembly 271 is pivotally connected to the second linking arm 283. Thus, the minor pneumatic cylinder 273 is operable to pivot the first linking arm 280 and second linking arm 283 from a first attitude or retracted position shown in FIGS. 2A and 3A to a second attitude or advanced

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positions shown in FIGS. 2B and 3B. For illustrative convenience, the position shown in FIG. 2A will be referred to as a first exemplary configuration 290 and the configuration shown in FIG. 2B will be referred to as a second exemplary configuration 291.

Please replace the paragraph beginning at page 25, line 20, with the following rewritten paragraph:

23. Two pair of attachment plates 330 are individually mounted on the proximal end portion 324 and on the distal end portion 325 of each pivot arm 323. The attachment plates of each pair are disposed in adjacent spaced relation. A linking pin 331 is positionable in holes extending through each pair of attachment plates 330, as shown in FIG. 4. Mounting plates 332 are individually secured, as by welding, on opposite sides of the distal end portion 325 of each pivot arm 323. A pivot assembly 333 is pivotally mounted on, and extends between, the mounting plates 332 and, in turn, pivotally mounts an outer member 334 thereon. The outer member has a proximal end portion 335, which is directly mounted on the pivot assembly, and an opposite distal end portion 336. A stop 345 is mounted on each outer member 334 in position for engagement with the attachment plates 330 of its respective pivot arm 323, as shown in FIG. 3B. Thus, the engagement of the stop with the attachment plates 330 stops the outer member in the position shown. A pair of attachment plates 346 is mounted on each of the outer members 334 in the positions most readily seen in FIG. 4.

Please replace the paragraph beginning at page 47, line 12, with the following rewritten paragraph:

24. Still further, the effective pivot point of the interconnection of the major pneumatic cylinder assembly 251 and the engagement assembly 182 can be varied for purposes of converting the exercising apparatus from the shoulder press configuration of FIG. 2A, for example, to the lat pull down configuration of FIG. 2B in exercising, as already described. This is preferably automatically performed by the control system by depressing the designated combination of buttons 480, 481, 482 and/or 483 in selecting

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the exercise to be performed, as already described. This is achieved using the minor pneumatic cylinder assembly 271. Following the commands indicated in the second display area 408, the cylinder rod 274 is thus extended or retracted to move the first linking arm 280 and the second linking arm 283 between the first attitude best shown in FIG. 3A and the second attitude best shown in FIG. 3B. When in the position shown in FIG. 3A, the path of movement of the clevis end of the cylinder rod 254 is substantially as if link arm 280 did not exist. This causes the major pneumatic cylinder to pivot relative to the engagement assembly about pivot mounts 262. When the first linking arm 280 and second linking arm 283 are in the position shown in FIG. 3B, the pivot point for link arm 280 is in line with the primary pivot axis defined by the bearings 181 and thus the pivot axis of the engagement assembly 182. This causes the major pneumatic cylinder to pivot about the pivot point of the clevis assembly 255 of the cylinder rod 254. This adjustment causes the resistance curve of the exercising apparatus to be changed to accommodate the particular form of exercise involved.